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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/720,670

11/25/2003

Jacques Jolly

Q78568

6258

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

STOUFFER, KELLY M

ART UNIT

PAPER NUMBER

1762

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/08/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/720,670

Applicant(s)

JOLLY ET AL.

Examiner

Kelly Stouffer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 29 November 2006, with respect to the objections to the specification have been fully considered and are persuasive. The objection of the specification has been withdrawn.
2. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent number 6690868 to Anderson et al. in view of US Patent number 5450192 to Nolf et al.

Claim 1 of the applicant requires a CVD process for producing performs of dispersion shifted or dispersion compensating optical fibers with a core, ring, and inner and outer cladding by depositing layers. Anderson et al. discloses an optical fiber that can be prepared with acceptable dispersion properties in column 5 lines 45 and 46 by modified chemical vapor deposition (MCVD) in column 9 lines 13-23. The fiber is made up of a core 110 a ring, or zone 120, and cladding layers 130 shown in Figure 1 and described in column 4 lines 24-29. The cladding layers may be considered inner and outer cladding layers 430 and 450, respectively, shown in Figure 4. The inner cladding layer of the optical fiber has a phosphorous content of 0.7 mol % that corresponds to a

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weight percent of 0.01% when the entire composition is taken into consideration in column 9 lines 34-36. The ring layer of the optical fiber has a phosphorous content of 0.3 mol % that corresponds to a weight percent of 0.004% when the entire composition is taken into consideration in column 10 lines 15-18. Anderson et al. does not indicate a more specific target range for the phosphorus content of the layers. However, Anderson et al. teaches that the refractive index of the layers are controlled by their chemical composition in column 9 lines 32 and 33. The variable of phosphorus content in the film is therefore reliant on the method used and its importance is only dependent on the desired refractive indices of the layers. Modification of this variable is by routine experimentation and is not inventive.

It would have been obvious to one of ordinary skill at the time of invention to modify Anderson et al. by routine experimentation to include values of phosphorus concentration in the inner cladding and ring layers of the optical fiber within the range of 0.03-0.1 wt% as required by the applicant in order to fabricate layers with a desired refractive index, especially absent evidence showing a criticality for using the claimed range of phosphorous concentration. (See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)).

Anderson et al. also does not include fabricating optical fiber performs with furnace chemical vapor deposition (FCVD). Nolf et al. teaches that one would want to use FCVD to fabricate optical fiber performs in order to make performs with greater and greater diameters and high core indexes (column 1 lines 11-21).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson et al. to include using FCVD to make optical fiber performs as taught by Nolf et al. in order to make performs with greater and greater diameters and high core indexes.

With regard to claim 3, Anderson et al. describes an outer cladding 450 in Figure 4 that has the same refractive index as inner cladding 430 in column 6 lines 54-58. Anderson et al. in column 9 lines 32-33 describes the refractive index of cladding layers as controlled by their chemical composition. Because the chemical composition of the inner layer contains 0.004 wt % phosphorous and has the same refractive index as the outer layer, one of ordinary skill in the art would deduce that the outer layer would have the same chemical composition. In addition, Anderson et al. also describes cladding 130 also referred to as innermost cladding 130 in Figure 1 (column 4 lines 45-46) that may be comprised of more than one cladding layer in column 4 lines 35-39. The innermost cladding made up of more than one cladding layer may be made up of an outer and inner cladding component, at least as broadly described by the applicant. Therefore, when Anderson et al. refers to the inner cladding containing 0.004 wt % of phosphorus, he refers to all possible cladding layers that may make up the innermost cladding layer.

With regard to claim 4, Anderson et al. includes layers deposited by MCVD that contain fluorine in column 9 lines 34-36 and column 10 lines 15-18. Anderson et al.

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does not specify a deposition pressure for the layers. Anderson et al. teaches that the deposition conditions, including pressure, must be reengineered every time the fluorine concentration in the gas is changed in order to control the changing melting point and viscosity of the glass that change as a result of the fluorine concentration in column 2 lines 5-14. The variable of deposition pressure is therefore reliant on the method and conditions employed in carrying out the invention and its importance lies in the control of melting point and viscosity of the glass that changes as a result of fluorine concentration. Modification of the variable of deposition pressure is by routine experimentation and is not inventive.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Anderson et al. by routine experimentation to include a deposition pressure within 20 % of atmospheric pressure as required by the applicant in order to control the melting point and viscosity of the glass that changes as a result of fluorine concentration especially absent evidence showing a criticality for using the claimed pressure. (See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955))

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Nolf et al. and in further view of US Patent number 5721800 to Kato et al.

Anderson et al is described above and includes an optical fiber that is capable of polarization-mode dispersion in column 5 lines 43-46. Anderson et al. or Nolf et al. do not include an optical fiber of high polarization-mode dispersion. Kato et al. teaches an

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optical fiber of high polarization mode dispersion that is intended for use in a submarine cable because submarine cables must have optical fibers with transmission over a large distance in column 1 lines 24-27.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Anderson et al. and Nolf et al. to include an optical fiber capable of high polarization-mode dispersion as taught by Kato et al. in order to construct an optical fiber that is intended for use in a submarine cable and can transmit signals over a large distance.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer
Examiner
Art Unit 1762

kms



TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER